

## ***RELAZIONI***



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**NEW POLICIES AND TECHNOLOGIES FOR EUROPEAN  
TRANSPORT RESEARCH: STATE OF THE ART AND  
FUTURE DEVELOPMENTS – WITH A PARTICULAR VIEW  
ON THE IMPACTS OF THE ‘NEW ECONOMY’**

**Introduction.**

Dear Professors, Ladies and Gentlemen,

it is a great pleasure for me to address you today at the invitation of dear Professor E. Fanara of the Centro Universitario di Studi sui Trasporti, University of Messina.

I will present you an overview on new policies and technologies for European Transport Research: state of the art and future developments – with a particular view on the impacts of the ‘new economy’ on the transport system.

We all know that the world is undergoing tremendous changes, both politically and industrially. The globalisation of industrial processes, the Information Society, and the ‘New Economy’ are issues that will continue to have an enormous impact on the future development of Europe and its citizens.

These trends constitute the challenges that policy-makers and industrialists are facing when shaping Europe’s future. With a view to secure a future for generations to come, our ultimate goal can not be other than the achievement of sustainable growth. Hence, the challenge is to

set the conditions for welfare and economical growth, whilst protecting the natural resources and the environment.

It is also important to underline that we trust, better, that we depend on the academic and scientific community to both identify the right questions and find the adequate answers to meet those new challenges.

The Common Transport Policy acknowledges fully the concept of sustainable growth and tries to reflect it, in the development of mobility as one of its key elements.

To try and address in a clear way this rather complex issue I will first present the state of the art: the main guidelines of the Common Transport policies; before developing more specific ideas on new projects and trends in the logistics and supply chain management areas. Finally, I will insist on the need to address the challenge that intermodality and intermodal freight transport represents, as well as on the role that Intelligent Transport Systems can play to streamline the transportation process hence meeting the user requirements for the 'new economy'.

The European Commission is revising the 'Common Transport Policy' in order to pave the way for the decisions that will meet the expected increase in transport demand. Transport is expected to continue its growth due to global competition, new industrial management concepts and e-commerce and last but not least due to the approaching enlargement of the European Union.

In order to guarantee 'sustainable transport', a framework of conditions has to be established to acknowledge the need for the industry to remain competitive, whilst fulfilling the demand of citizens in terms of both, quality of life and protection of the environment.

Freight transport doubled between 1970 and 1998. Whilst transport modes such as road increased their market share significantly, others such as railways stagnated or even lost its market shares. Moreover, some modes of transport represent special problems such as e.g. road transport which is at the source of a large share of external effects and resulting costs.

In addition, it is anticipated that due to new factors such as the enlargement and the foreseen increase in e-commerce, freight trans-

port will increase drastically over the next years. In this context, a simple continuation of the trend of growing road transport is unacceptable for societal, environmental and economical reasons.

On the basis of current transport policies the Commission estimates that for 1998-2010 there will be a growth in freight transport activity of almost 40% while passenger transport would increase by 24%. The highest growth within freight transport is expected to be for road transport an increase of 50%.

Another example relates to current patterns of transport and energy use that are having dramatic effects on our environment. Some 94% of man-made CO<sub>2</sub> emissions in Europe are attributable to energy production and use: this includes transport where between 1990 and 2010 it is forecast that some 90% of the projected growth in CO<sub>2</sub> emissions will arise. It is a priority of the European Commission to reduce these effects and to meet the international commitments given by the Union in Kyoto. The challenge is to achieve a reduction in overall greenhouse gas emissions by 8% between 1990 and 2010. However, according to current projections, far from decreasing, if no action is taken, these emissions are expected to increase by 5 %.

The unbalanced use of the transport modes, but also an obvious lack of interconnectivity and interoperability between the different modes, hampers the sustainability and efficiency of the transport system resulting in negative impacts on industrial competitiveness and economical growth.

In addition and to ensure sustainable transport, one needs to understand better the demand side of transport services. Sustainable transport implies the most efficient use of all transport capacities available, in a balanced and interconnected way and at a high level of service quality.

The Common Transport Policy is focusing on the following main areas that are growing in importance on the brink of this new century: the safety and quality of transport (e.g. integrated door-door-services) and the re-balancing of modes (e.g. short sea shipping).

Already during this last year, the European Transport Policy has been earmarked by a considerable number of initiatives in order to solve some of the most urgent and obvious transport problems.

In this context, please let me draw your attention to the 'Single European Sky' initiative. The continuing increase in air traffic delays (by which certainly each and everyone of you has already been affected) led the Commission to make air traffic management one of its priorities, aiming in particular to improving the quality of services in airborne passenger traffic and establishing a Single European Sky. One of the action fields will be the stimulation of the introduction of new technologies, whilst respecting the absolute priority of safety, and improve the interoperability of systems and techniques.

In fact, the safety of all transport modes is at the heart of the European Common Transport Policy. The figure of 42,000 fatalities in European road transport every year is still considered to be much too high, shipping accidents such as the Erika disaster and their environmental and economical impact should be prevented (e.g. the Erika package represents a first tackle to the problem). Transport policy can set the regulatory framework, but can also stimulate best practices, both supported by new and interoperable technologies.

Other core issues such as the need for bringing transport closer to the citizens as well as urban mobility and enhanced city logistics are also important areas for the quality of transport.

In the domain of re-balancing the modes, the focus is on the integration of transport modes through enhanced interconnectivity and interoperability of technologies and systems, the further development of the Trans-European networks and infrastructure charging concepts.

The achievement of these objectives will only be possible, if all parties involved are ready to accept and integrate evolving concepts in their planning and to contribute to their implementation.

The Commission hopes that by enabling a transport system that ensures a high level of quality whilst using all available transport modes in the most efficient pattern, it can help paving the way for Europe's industry to face the challenges of global competition whilst matching the societal needs for sustainability.

## **Globalisation and the Role of Logistics and Supply Chain Management.**

Industrialised countries and their societies are strongly know-how based, both the information society concept and the incredible fast spread of technologies and systems such as Internet, facilitate a global and easy access and linkage of emerging markets. One of the characteristics of this change in modern economies is the emphasis on process management and processing technologies. Logistics and supply chain management are a paradigm for this kind of process management and optimisation.

The globalisation process requires a change in ideas how to plan and manage industrial processes. New economy will most likely intensify this trend. Globalisation and new economy require the optimisation of logistic processes and of the management of entire supply chains.

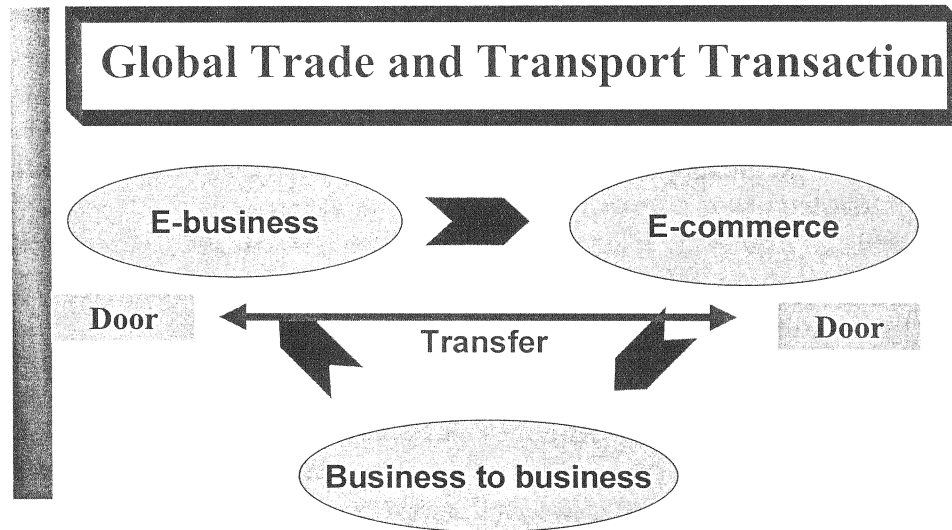
As we all know, logistics plays an important role in business, as it represents the entire process of planning, implementing and controlling the efficient and cost-effective flow and storage of both goods and services as well as of related information from point of origin to point of consumption and with the purpose of meeting customer requirements.

The new trend to supply chain management aims at meeting the organisational demands for the integration of the company own logistics with the logistic processes of its external environment.

The optimisation of logistics and supply chains requires a system-oriented approach, i.e. the optimisation of the entire system and not only that of single functions or processes.

Enabling information and communication technologies are the driving forces for logistics and supply chain management concepts. They also create the framework for developments such as e-commerce.

Figure 1



Freight transport is an important part in logistic chains, interacting with the other components, the supply industry, the production and distribution of goods.

Freight transport is a derived demand. It is therefore part of the economic process. The requirements of industrial processes have changed dramatically and can be characterised by global competition, shorter production processes and shorter product-life-cycles and the need to cut costs.

The use of just-in-time delivery, customised production and the concentration of supply and distribution centres has led to a close inter-relationship between production and distribution processes and transport, aimed at high service performance, reduced time-to-market and lower costs.

The geographic scope of supply and distribution chains has increased. With growing transport intensity, industry has realised that



transport and logistics costs could and can be reduced by better using intermodal transport in the framework of supply chain management.

Many companies concentrate on their core business and delegate the organisation and management of their logistics to third party logistic service provider in order to increase the efficiency and quality of the entire system and to achieve cost-savings. In many cases this exceeds the pure outsourcing of transport functions and integrates production, procurement, warehousing, transport and distribution.

Third party logistic service providers (3PLs) do originate mainly from the transport sector, but also from the production management, the warehousing or from the information technology (IT) sector.

### **Challenges for Intermodal Freight Transport.**

The quality profile for transport services is mode-independent. Reliability, efficiency, speed and flexibility in order to deliver goods at a precise time and place are key requirements. Today, the road sector still sets the benchmark for these requirements (in particular for flexibility). Finally, it is the only transport mode that can provide unbroken door-to-door links.

But congestion and bottlenecks, high external costs and the repercussions on mobility, growth and quality of life as well as the commitment of Europe to match the Kyoto objectives underpin the need for a change.

Road transport will certainly remain an important part of the entire transport chain for obvious reasons, but the integration of all transport modes and in particular of short sea shipping and railways, in order to enable an efficient use of the entire transport system through seamless door-to-door transport services – i.e. intermodal transport – is what the Commission is aiming at.

The Commission acknowledges the fact that the development of a political and technical framework for intermodality is of vital importance for the entire European Union to ensure the efficient and sustain-

able transport of goods and thus the competitive potential of European industries in an increasingly competitive world market.

Intermodal transport aims at the better integration of the different transport modes with a view to enhancing the quality and reliability of door-to-door transport services. It is primarily based on the advancement of co-operation between the different modal actors.

This co-operation will enable an optimised use of the existing capacities and could induce more balanced transport demand. Hence, intermodalism is one of the key pillars of sustainable mobility. It allows for a better use of the infrastructure and services and is more environmental friendly than road transport.

As you know, all of this is rather complex and difficult to achieve. One of the main reasons why intermodal transport is still not exploited to the extent it would be desirable, is the generation of friction costs when changing the means of transport.

Changing transport means does not simply imply the change from one transport mean to another, in fact it symbolises still a change in system, from one transport system or even from one transport world to another.

In order to reduce the friction costs of intermodal transport, integration is needed at three different levels: at the level of the infrastructure (nodal points and the transport route) and of the transport means (the vehicle, transshipment equipment, loading units), at the level of the transport operation and last but not least at the level of mode-independent services and regulations.

In this context, the following areas require specific attention as pointed out by the Commission in its Communication on Intermodality and Intermodal Freight Transport from 1997:

- the intermodal design of the Transeuropean Networks;
- the design and functions of intermodal transfer points;
- the harmonisation of standards for transport means;
- the integration of freight freeways;
- the development of common charging and pricing principles;
- the harmonisation of competition rules;

- the harmonisation and standardisation of procedures and Electronic Data Interchange (EDI);
- intermodal liability regimes.

In a second communication from 1999, the Commission identified areas where significant progress has been already achieved or where it is underway. In addition, the Commission has further identified a number of key areas for which it considers that more effort is needed. In this context, the Commission will stimulate together with the private sector:

- the development of more integrated Intelligent Transport Systems (ITS) applications with a view to enhance transport quality in general and in particular to better support door-to-door transportation processes;
- the creation of electronic-commerce applications for intermodal freight (e-commerce).

In this context it should be stressed the planned participation of the Commission in the world ITS Congress that will take place in Torino in November this year, where the Commission will be setting its views on both its transport priorities and on the role envisaged for ITS to help achieving these priorities.

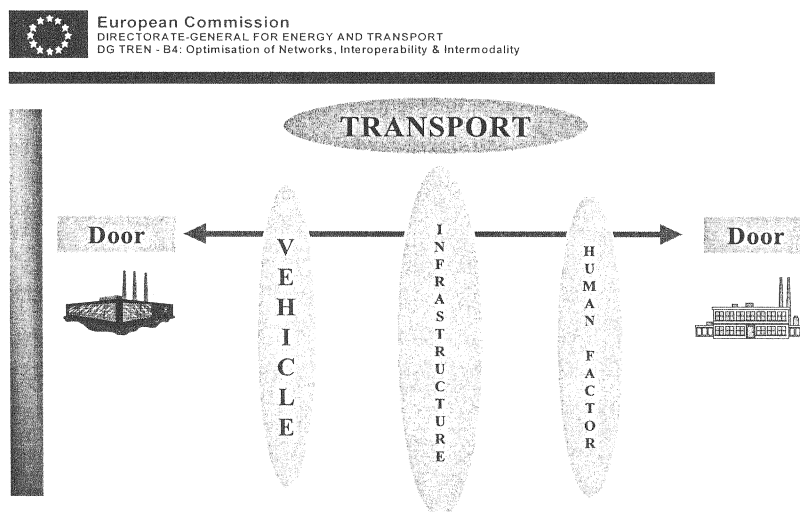
### **What is the European Commission doing?**

The Commission will continue together with the private sector to further develop the work in the area of supply chain management, logistics and freight intermodalism and the demonstration of the potential of freight intermodalism for supply chains.

The Commission will act as a catalyst, it will stimulate the private sector and encourage co-operation amongst the different stakeholders including itself. The basis for shaping Europe's future in view of today's challenges is a broad consensus between the Commission, the manufacturing industry, the transport sector and the academic and scientific community.

The Commission can set the regulatory framework and it can promote best practice approaches. The revision of the guidelines for the Trans-European Networks sets another accent into the direction of intermodality and intermodal freight transport. Intermodal transport is heavily dependent on enabling infrastructure, which enhances interconnectivity and interoperability between the different transport modes.

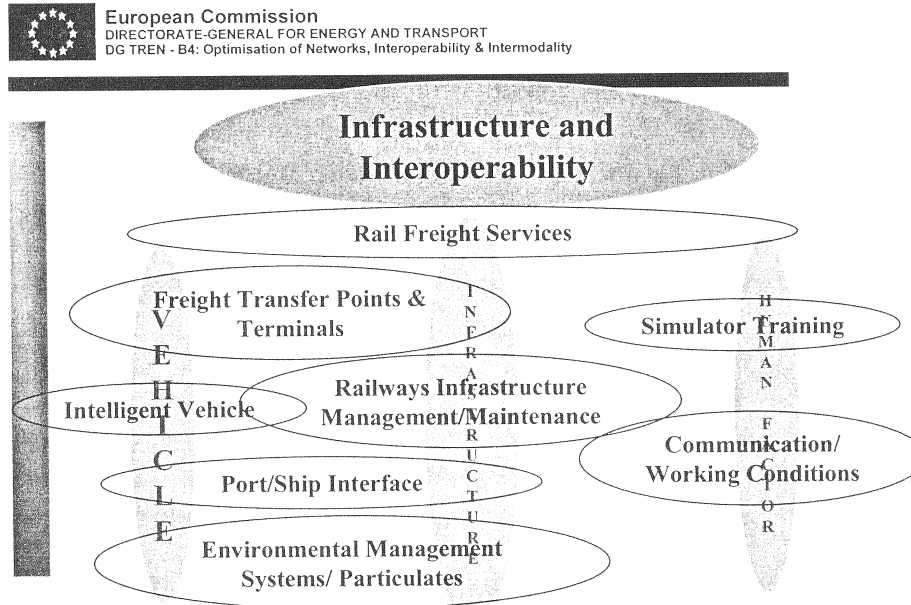
*Figure 2*



Accordingly, the Commission intends to continue supporting intermodal transport through both research and large-scale demonstration projects under the Framework Programmes for Research and Technological Development, the Trans-European Networks as well as through pilot actions such as those applied in the past for combined transport (PACT).

Let me briefly give you some examples of actions undertaken by the Commission in order to stimulate and facilitate intermodal freight transport and to establish a level playing field for all transport modes.

Figure 3



Large scale demonstration projects for logistics and supply chain management concepts (focusing e.g. on modes of transport which need to be better integrated into the overall transport chain such as inland navigation and short sea shipping):

- Development of a common understanding of functionalities for a systems architecture for real information and management systems including tracking and tracing applications – standardisation (Thematic Network THEMIS).
- City logistics – the impact of freight distribution in the urban areas (Thematic Network BESTUFS).
- The CIVITAS initiative on the integrated transport and energy approach to achieve clean urban trans-

port – forecasted to start by the end of this year (Call December 2000).

- Common views on and state of the art of logistics and supply chain management in Europe (Thematic Network LOGICAT).
- The development of standards for small containers such as in the COST action 339.
- Investigation of the possibilities of an intermodal carrier liability regime where the transport law community should play a very important role.
- Development of new principles for infrastructure charging.
- Establishment of an European Intermodal Reference Centre (in implementation).

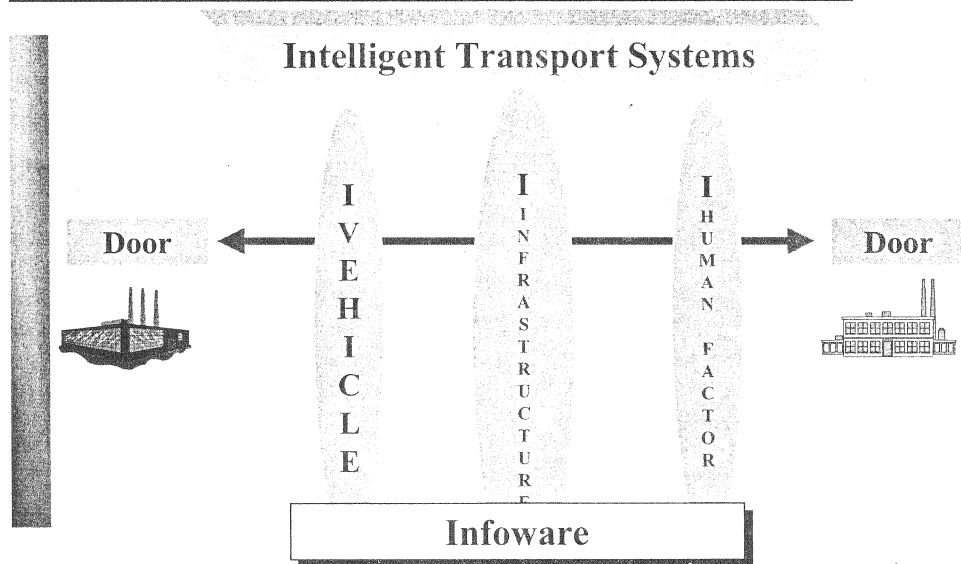
To be successful, all these projects, new ideas and conceptual tools require an active participation of the European academic and scientific community. All fields of science need to be involved – from exact to human sciences as well as all fields of related social activity, hence providing both an holistic approach to the problem and the critical mass of know-how to address it.

The intelligent use and integration of new technologies may help to obtain a safer, more efficient and more environmental friendly system – a sustainable transport system –. But in order to achieve this goal a fundamental task lies ahead – to integrate the basic elements of any transportation system the – infrastructure, the vehicle and the users/drivers.

Figure 4



European Commission  
DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT  
DG TREN - B4: Optimisation of Networks, Interoperability & Intermodality



In this respect we are facing the challenge of achieving a full interoperability between those key elements. In fact, we have the historical opportunity to decide that we want to have a fully interoperable transportation system in Europe now! In the past this was not done for the physical infrastructure and we are nowadays suffering the consequences.

Interoperability needs to be achieved within each mode of transport as well as between the different modes of transport (e.g. supporting intermodality and multi-modality). Interoperability needs also to exist between the trans-European networks and fundamental transport nodes such as ports, cargo terminals and clearly between cities, the commuter areas and the trans-European networks.

In this respect, I would like to mention the intelligent transport systems as they are intended to provide a better use of

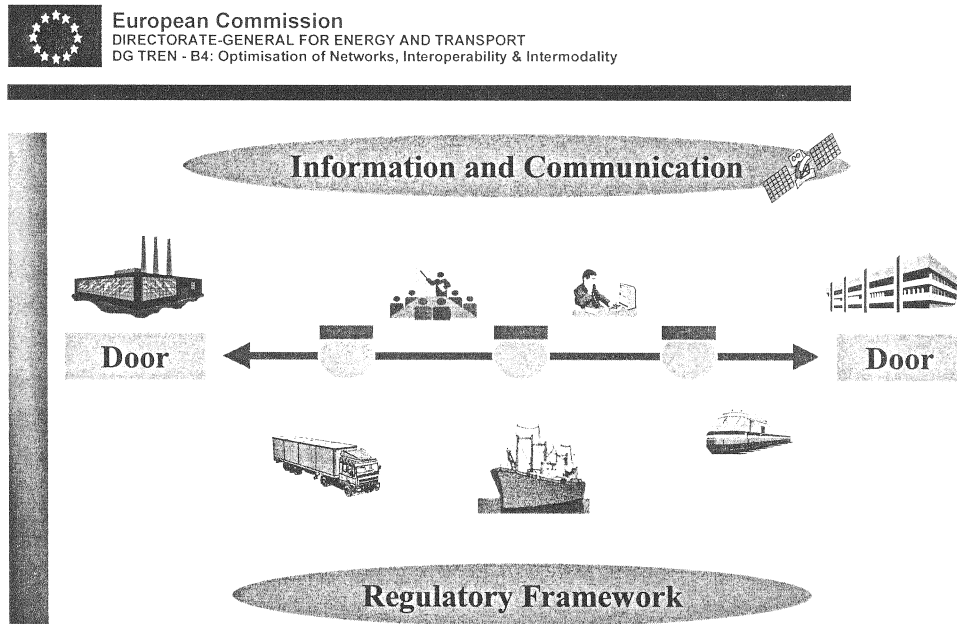
the transport system, by adding the information layer to the process of transport. Information is in fact the enabling element in the system as it allows the three key pillars to interact – from the pace of information depends the rhythm of transport.

In the forthcoming years, on the trans-European networks alone almost 5 billions Euro will be available to support the deployment of transport infrastructures in Europe. This entails a global investment of roughly 50 billion Euro to be shared by Member States and the European Commission and although the major part of these developments will be physical infrastructures, most of those will have an associated deployment of Intelligent Transport Systems. This constitutes an important window of opportunity, first of all to improve the European transportation system but also to provide the European industry and the academic and scientific community with an opportunity to deploy the excellence of their creativeness.

In practical terms this window of opportunity implies the deployment of fully interoperable systems both in physical and in IT terms (e.g. traffic management and other intelligent transport system applications). This will enable achieving full consistency in the door-to-door transportation process by developing simultaneously the three key pillars, the information and communication enabler and the regulatory framework.



Figure 5



### Concluding Remarks.

An enormous but rewarding task lies ahead and it cannot be done without the active cooperation of all the key actors.

This initiative organised by your institute, bringing together the key actors of the Italian transport law community, to reflect on strategic transportation issues and in particular on the impacts of the 'new economy' in the transport area already represents an important step in the right direction and certainly can be used as an example to follow.

Accordingly, I would like to invite you, as important representatives of the transport law community, to even further increase your co-operation with the public powers in order to start the development of a global architecture for a legal framework that guarantees, that

apparently contradictory key issues such as consistency and creativity, public and private interests as well as the trans-European networks and the private demand on transport can come together, thus inspiring the development and the physical deployment that are required.

From my part, I would like to state that the Directorate-General for Energy and Transport is striving to achieve this goal. All the resources that are available in the research area as well as those on the trans-European networks scheme are being deployed following the underlying principle of helping to achieve this key objective: achieving full interoperability between the different pillars of the transportation system.

Thank you for your attention.

**LUCIO BIANCO**

*(c.s.)*

Prima di ascoltare la seconda relazione, prego il Sindaco di Ispica di prendere la parola, per porgere il saluto della sua città ai convegnisti.